PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE PATENT APPLICATION OF:

GORDON JEFFREY HUGGHINS AND
LEONARD W. HOLMES

U.S. SERIAL NO: UNKNOWN 10/700,282 GROUP: UNKNOWN

FILED: NOVEMBER 3, 2003 EXAMINER: UNKNOWN

FOR: MULTISTAGE WARM AIR FURNACE
WITH SINGLE STAGE THERMOSTAT
AND RETURN AIR SENSOR AND
METHOD OF OPERATING SAME

La Crosse, Wisconsin
January 30, 2004

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop DD, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

1/30/04 William O'Driscoll
Date William O'Driscoll

INFORMATION DISCLOSURE STATEMENT A

Mail Stop DD
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The following documents are submitted to fully comply with applicant's duty of disclosure.

U.S. Patent 4,467,616 to Kitauchi includes a control unit which responds to both the temperature difference and the rate of change in temperature per unit time to increase or decrease the number of compressors put into operation with respect to the number of compressors

operated at the just proceeding interval of time. A single heat sensitive element 30 is used to calculate the difference Delta T_1 between the actual temperature T_{a1} and the set temperature T_s and a rate of change T_2 of the element.

U.S. Patent 4,408,278 to Saito et al. produces a difference between an actual in car temperature and a desired value when the rate of change of the actual in car temperature is below a predetermined value.

U.S. Patent 4,337,893 to Flanders et al. includes a plurality of burner assemblies which are energized dependent upon the magnitude of difference between space temperature and a reference temperature.

U.S. Patent 4,417,688 to Schnaibel et al. compares a temperature command signal in a feedback signal and produces an error signal to operate an actuator which in turn actuates an adjuster for fluid flow through a heat exchanger. The command signal is adjustable by a passenger while the feedback signal is derived from a passenger compartment temperature sensor and from a heat exchanger temperature sensor.

U.S. Patent 4,172,555 to Levine determines the optimum time to switch a furnace system "on" to meet the next program increase temperature by switching the furnace "on" then "off" a short time later and measuring the temperature change resulting in the building as a result of that transient operation. The time at which the furnace must be switched "on" to attain the next program temperature is determined as a function of the rate of temperature change as determined by the transient switching and a difference between the instantaneous and future program temperature.

U.S. Patent 4,442,972 to Sahay et al. controls the main and auxiliary temperature conditioning stages of a system 12. A thermostat continuously senses actual zone temperature while the main temperature conditioning means of the system is operating, periodically determines the rate of change of the zone temperature actually being affected in the zone 14 with such operation of the system 12, and actuates the

auxiliary temperature conditioning means of the system to add to the main temperature conditioning means only when the rate of change of temperature actually being affected in the zone is below a selected or desired optimum rate of temperature change.

As noted, the foregoing are submitted to fully comply with applicant's duty of disclosure and are not considered to be particularly relevant to the claimed invention.

Respectfully Submitted,

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PTO/SB/08A (08-03)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet | | of | |

Complete if Known	
Application Number	
Filing Date	11/03/2004
First Named Inventor	Hugghins, G. J.
Art Unit	
Examiner Name	
Attorney Docket Number	D-2747/WOD

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 4,467,616	08/28/1984	Kitauchi	
		US- 4,408,278	10/04/1983	Saito et al.	
		US- 4,337,893	07/06/1982	Flanders et al.	
		US- 4,417,688	11/29/1983	Schnaibel et al.	
		US- 4,172,555	10/30/1979	Levine	
		US- 4,442,972	04/17/1984	Sahay et al.	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.